

circulation, by which, in different organs, the functional changes of secretion, nutrition, &c., are carried on. The *general circulation* in itself, does not produce any functional changes, but merely preserves unbroken, and independent of the activity of the special circulation, the progressive movement of the blood, which at all times passes over in part from the arterial to the venous system, through the capillaries; while the *capilliculi* receive a part of it for elaboration in the special tissues to which they are destined. These capilliculi (the size is not stated) are impervious to all particles which are not in solution; the blood-corpuscles do not pass through them; nevertheless they may always be traced, varying in disposition according to the organ or tissue in which they are situated. For the most part they are tolerably uniform in size; but they may be observed, on the one hand, to pass into vessels still more minute (not equal to the half, third, or fourth part of the diameter of a blood-corpuscle); and, on the other, into the ultimate lymphatic vessels, which again communicate, by innumerable minute passages, with the venous system.

M. Bourgery conceives that this scheme of the circulation completes, without abrogating, that of Harvey and the majority of physiologists. On the one hand, it admits a general circulation of the kind described by Harvey, which is permanent and complete in the circle which it describes; in the other, it asserts an extension of this by an infinite number of partial or functional circulations, isolated from each other, but connected by means of the general circulation, and in their united capacity very much exceeding the latter. These partial circulations are special and heterogeneous in their function and distribution, and are only periodically active; the only exception to this being in the lung, where the special may be considered as subserving a mechano-chemical function; and being properly a function or complement of the general circulation, is, like it, permanent and complete.—*Comptes Rendus*, Sept. 4, 1848.

[We have endeavoured to express what appears to be the author's meaning, although the involved and inexact style in which the conclusions are given, renders it, in some instances, not a little difficult to be assured of having done so correctly. MM. Magendie, Flourens, Serres, and Milne-Edwards, have been appointed to examine into the author's facts. Should they find any reason to suppose these correct, we would suggest the question, how the change in the *colouring matter* of the blood, which apparently does not pass through this new system of vessels, is effected; and also, what are the forces which determine the passage of the fluids through these vessels; as it can scarcely be supposed that the force of the heart, which is constantly exerted to maintain the general circulation through the very free *anastomosis* of the capillaries, should be the active agent of propulsion through this partial and occasionally active system of vessels.]—*Monthly Retrosp.*, Dec., 1848.

3. *On the Action of the Pancreatic Fluid.* By M. CH. BERNARD.—The author of this paper concludes from his experiments that the pancreatic secretion is essential to the reception of fatty matters into the system. He found that it immediately produces an emulsion, when mixed with oily substances; a property which is not possessed by any other animal fluid. The first action seems purely mechanical; but after a time a further change takes place, the fats being decomposed into their fatty acids and glycerine. In this state the bile, which does not act on the neutral fats, will readily take them up; and thus a mixture of bile and pancreatic juice, such as is found in the duodenum, has the double power of dissolving the neutral fats and the fatty acids. The author has found that if the pancreatic ducts be tied, no fatty matters find their way into the chyle.—*Brit. & For. Med.-Chirurg. Rev.*, October 1848, from *L'Institut*, Mai 3, 1848.

4. *Note on one of the Anomalies of the Right Subclavian Artery, with Absence of the Recurrent Nerve of the Right Side.* By M. DEMARQUAY.—Anatomists and surgeons have remarked with great care, all the anomalies of origin and of distribution which the right subclavian artery can present. It is not my object here to record them. I desire only to draw attention to a curious fact which accompanies one of these anomalies; and to speak of the absence of the right recurrent nerve, when the subclavian artery of the same side arises from the left

part of the aortic arch, in place of arising from the brachio-cephalic trunk as usual. When the right subclavian artery arises from the left part of the aortic arch, it directs its course to the right side, either by passing in front of the trachea, as Professor Blandin has observed, or behind it, or behind the oesophagus, to restore itself to its normal position. In these various circumstances, he (Professor Blandin) was curious to know what became of the nerve. Is it alike reflected on the artery, or did this anomaly of origin bring with it a modification in the nerve? This it was which I verified for the first time, in 1843, in a preparation which may be seen in the museum of the school.

In this case the subclavian artery passed from left to right, and after having taken its origin from the left part of the arch of the aorta, passed between the oesophagus and the vertebral column, and thus reached the space between the scaleni. In this case, which has been recorded in Professor Cruveilhier's "Treatise on Anatomy," there was absence of the inferior laryngeal nerve. Since then, I have had occasion to examine another subject in which the same arterial peculiarity existed, and where there was alike absence of the recurrent nerve. In these two anomalies, this is the character of the pneumogastric:—it occupies the normal position; from its internal part are given off a great number of nervous filaments, which are distributed to the larynx, to the inferior part of the pharynx, to the trachea, and to the oesophagus. All these nervous filaments, destined to replace the inferior laryngeal nerve, pass under the common carotid artery; some before this vessel, to distribute themselves to the parts which they are destined to innervate. These small nerves which supply the trachea and oesophagus with nervous energy, are on the whole alike in volume to those which normally furnish the recurrent. As for their length and direction, they are a little different, being longer and directed more transversely. The nerves which furnish usually the recurrent to the larynx, come, as in the case which occupies us, from the pneumogastric; this latter affords to the level of the larynx, a branch so voluminous, that it might be considered a veritable recurrent nerve; and which arrived at the inferior part of the larynx, is in every respect disposed of in the same way as the termination of inferior laryngeal nerve, a termination so well studied by Professor Blandin. The cardiac nerves furnished ordinarily by the recurrent, are given off by the pneumogastric.

Dr. Demarquay then observes, that in a functional point of view this anomaly is of no moment, justly remarking that in certain operations, as in tying the common carotid, it might occasion great embarrassment to the surgeon, and then concludes as follows:—

Such, then, are four cases where the abnormal origin of the right subclavian brings with it an important modification of the nervous vagus. Are these, then, accidental cases, or are they the sign of a phenomenon, always persistent when the subclavian (right) artery arises from the left part of the aortic arch;—and does this induce absence of the recurrent nerve? This I would not venture to say: further observations must prove it.—*Prov. Med. & Surg. Journ.*, Oct. 18, from *Gaz. Méd. de Paris*, Sept. 9.

5. *On the Chemical Phenomena manifested by different substances introduced into the Organism.* By M. BERNARD.—The author has performed a very extensive series of experiments, of which the conclusions may be stated shortly as follows:

1. Certain combinations of metals, which take place readily out of the body, and even in the gastric secretions, are prevented from occurring in the blood, and other animal fluids, by the affinities of the metal for organic matter. This proposition was drawn from observations on the reactions of a salt of iron with prussiate of potash.

2. Certain chemical reactions of the nature of fermentation (*e. g.* amygdaline with emulsine, sugar with yeast), which commonly do not take place in the stomach, are easily developed in the blood.

3. When salts of certain acids, whose affinity for bases is feeble (as the hydrocyanic and the carbonic), are injected into the veins, they are decomposed, and the acid is liberated; the decomposition in these cases appearing to take place in the capillaries of the lung.

4. Certain salts (such as the prussiates of potash and the salts of iron) appear